UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,033	05/08/2007	Kengo Yagyu	295119US8PCT	6929

22850   7590   12/08/2010
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EXAMINER
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ART UNIT	PAPER NUMBER
2474	

NOTIFICATION DATE	DELIVERY MODE
12/08/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)
	10/590,033	YAGYU ET AL.
	Examiner	Art Unit
	BENJAMIN ELLIOTT	2474

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2010*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,6,8-10 and 29-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 5, 6, 8-10, and 29-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1, 5, 6, 8-10, and 29-34 have been examined and are pending.
Claim 30 has been amended to overcome minor informalities. No new matter has
been added.

Response to Amendment

2.   In response to the amendments received in the Office on 11/04/2010, the
objection to Claim 30 has been withdrawn.

Response to Arguments

3.   Applicant's arguments filed 11/04/2010 have been fully considered but
they are not persuasive. Applicant argues United States Patent 6,80,259 B1 to
Zhang (hereinafter "Zhang") and United States Patent Application Publication
2003/0112810 A1 to Nakabayashi et al. (hereinafter "Nakabayashi") fails to
disclose certain limitations of Claims 1, 6, 29, and 32. Examiner respectfully
disagrees for at least the following reasons.

4.   Applicant argues Zhang fails to disclose "a location table to record an
address of each of said plurality of wireless base stations that structure a
network, in association with an address of the terminal device currently existing
under said each wireless base station" (Remarks, page 12). Examiner
respectfully disagrees. The claim limitation, broadly interpreted, calls for each
base station to record an IP address of a plurality of base stations that comprise
a network. Applicant argues Zhang's global/mirrored profile subscriber list 160 is

not a record of an address of each of said plurality of wireless base stations. It is

respectfully submitted that the "network" of the claims design only requires a

minimum of two base stations to be structured. Secondly, Zhang discloses each

wireless base station stores an IP address of another wireless base station in

order for seamless hand-off when a subscriber moves from the cell of one base

station to another (Zhang: Col. 9, line 57 through Col. 10, line 5 and Col. 5, lines

42-52). Since the location table of Zhang (Figures 4B and 4C) shows a plurality

of entries for base wireless stations, and mirrored base stations are by definition

adjacent coverage areas (Zhang: Col. 10, lines 6-20), Zhang recites the feature

of a location table. The claim further recites "in association with an address of the

terminal device currently existing under said each wireless base station". This is

disclosed as a subscriber list for each base station (Zhang: Col. 10, lines 45-55.

Each list contains the subscriber information of the terminal, and the associated

base station that owns the subscriber.). Examiner is unsure if it is the Applicant's

intent to show a list for each terminal currently under each wireless base station,

or to show just one particular terminal that currently belongs to any one of each

of the wireless base stations.

5.   Applicant argues Nakabayashi fails to disclose "a route control table

describing each of the other wireless base stations as a root bridge or a

destination bridge of a transmission path in the network in association with a next

hop to which the received packet is to be forwarded" (Remarks, page 13). The

claim limitation, broadly interpreted, calls for a route control table that identifies

only one of another wireless base stations as a root bridge or a destination

bridge in a communication path in association with a next hop along said path.

This is simply a routing table that identifies the next hop and identifies the next

hop as either the destination or the root bridge. Examiner considers the claim

limitation to comprise a routing table that includes some identification of a

bridging node or device of which a packet is to be forwarded in association with a

next hop, wherein the next hop is determined based on the source or destination

terminal that currently belongs to the wireless base station (bridge). Nakabayashi

discloses a next hop is determined on the basis of certain parameters as

determined by a spanning tree protocol (Nakabayashi: [0016]). The topology

determination is different than the path setting in that a network topology is first

determined based on the communication quality of viable wireless bridges that

may be connected to a root bridge (Nakabayashi: [0019]). Path setting is

determined based on both the spanning tree protocol and the destination

address of the received packet (Nakabayashi: [0040-0041]). Nakabayashi further

discloses a routing table for the determination of path setting (Nakabayashi:

Figure 5). Nakabayashi discloses in Figure 5 in conjunction with [0050] and

Figure 1, the destination address, 23, of Figure 5 is the terminal address of the

destination device to which the next hop wireless station is connected (See

Figure 1 of Nakabayashi for terminal devices connected to wireless base

stations.). This base station is chosen based on communication quality, however,

the received packet contains the destination address of the destination terminal

to which the path must be set. In terms of path setting, the wireless base station

(next hop) that must be chosen should at the very least contain the terminal

destination address of the destination terminal. If it is the Applicant's intent to

disclose in the claim limitation that the next hop is the wireless base station (or

bridge), Nakabayashi discloses the bridge ID of the wireless base station in

Figure 5 in conjunction with Figures 6 and 8. In order to establish a path setting,

Nakabayashi first determines if the wireless base stations are connectable. In

other words, do the wireless base stations meet a particular connectivity value,

and if they do, set a connectivity table in a descending order of signal reception

levels (Nakabayashi: [0065-0071]). Based on the reception levels and the values

in the connectivity table, Nakabayashi determines the values of the parameter

table (which is associated with the routing table, [0053]) to facilitate the topology

control operations such as path settings, including the bridge that is associated

with the next hop in the path. The bridge ID value of the routing table is therefore

associated with the root or destination bridge of a transmission path in the

network in association with a next hop to which the received packet is to be

forwarded. The Applicant further asserts that Nakabayashi is silent with regards

to the "next hop", wherein the "next hop" is determined in accordance with a

wireless base station to which a source terminal device or a destination terminal

device currently belongs (Remarks, page 14). Examiner restates that

Nakabayashi clearly shows a "next hop" value in that Nakabayashi determines

the values of the parameter table (which is associated with the routing table,

[0053]) to facilitate the topology control operations such as path settings,

including the bridge that is associated with the next hop in the path. The bridge

ID value of the routing table is therefore associated with the root or destination

bridge of a transmission path in the network in association with a next hop to

which the received packet is to be forwarded.

6.   Applicant further argues the combination of Zhang and Nakabayashi is

not an obvious one (Remarks, pages 14-15). Examiner respectfully disagrees. In

response to applicant's argument that there is no teaching, suggestion, or

motivation to combine the references, the examiner recognizes that obviousness

may be established by combining or modifying the teachings of the prior art to

produce the claimed invention where there is some teaching, suggestion, or

motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d

1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d

1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398,

82 USPQ2d 1385 (2007). In this case, Zhang and Nakabayashi are of similar

fields in that both disclose a means to decrease network traffic (congestion) by

reducing the amount of messages transferred in the network (Zhang: Col. 5, lines

38-41 and Nakabayashi: [0010-0012]). Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the

teachings of Zhang to include forwarding packets through a transmission line as

taught by Nakabayashi to increase message forwarding efficiency in a bridge

protocol processor and in the wireless section of the network (Nakabayashi:

[0098]).

7.   Applicant argues Nakabayashi fails to disclose, with regards to Claim 29,

a "packet creating unit" (Remarks, pages 15-16). Examiner respectfully

disagrees. Examiner understands this limitation to mean appending wireless

base station information to a received packet if the wireless base station is the

first to receive the packet. In other words, the wireless base station is simply

adding information to a packet as a means to identify itself as a "hop" or relay in

the path of communication. Examiner has given the terms "a packet" and "a

wireless base station" their broadest, reasonable interpretation, read in light of

the specification. If "a packet" is received at a first wireless base station, it is

reasonable to assume, read in context of the claim as presented, that "a wireless

base station", meaning *any* wireless base station may add its address

information to the packet. This claim limitation is broadly interpreted to

encompass adding wireless base station address information of a wireless base

station of the connected source of the transmitted packet. In other words, the

source of the packet may be the source that is connected to bridge that is to

append the packet with said wireless base station address information.

Nakabayashi discloses the addresses of the address fields of the MAC frame

([0009]) to include the transmitting source (forwarding source) MAC address TA

(transmitter address) in the wireless section, the address field 113 contains the

destination (forwarding destination) MAC address RA (receiver address) in the

wireless section, the address field 117 contains the MAC address SA (source

address) of the packet transmitting source terminal, and the address field 115

contains the MAC address DA (destination address) of the packet destination

terminal (Nakabayashi: Figure 2 and [0040]). Nakabayashi also discloses each

wireless bridge analyzes the TA and SA addresses to identify the MAC address

of the connection wireless bridge. With regards to the limitation, if said one of the

wireless base stations is a wireless base station that *first* received a packet from

a terminal device, to add address information of a wireless base station, to which

the source terminal device or the destination terminal device of the received

packet currently belongs, it is submitted by the Examiner that any base station

connected to a source terminal would receive the packet first, and Nakabayashi

discloses the addresses of the address fields of the MAC frame ([0009]) to

include the transmitting source (forwarding source) MAC address TA (transmitter

address) in the wireless section (Nakabayashi: Figure 2 and [0040]).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed

or described as set forth in section 102 of this title, if the differences between the

subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made

to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negatived by the manner in which the invention was

made.

9.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.
10.   This application currently names joint inventors. In considering

patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that

the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a

later invention was made in order for the examiner to consider the applicability of

35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35

U.S.C. 103(a).

11.   Claims 1, 5-6, 8-10, and 29-34 are rejected under 35 U.S.C. 103(a) as

being unpatentable over US Patent 6,810,259 B1 to Zhang (hereinafter "Zhang"),

in view of US Patent Publication 2003/0112810 A1 to Nakabayashi et al.

(hereinafter "Nakabayashi).

Regarding Claim 1, Zhang discloses **a packet transmission system**

comprising:

a plurality of wireless base stations (Zhang: Figure 3a. The network comprises

at least two base stations.);

and one or more terminal devices belonging to one of the wireless base

stations (Zhang: Figure 3a; Col. 7, lines 10-15. Each base station has at least

one mobile host belonging to it.);

wherein each of the wireless base stations has a location table to record an address of each of said plurality of wireless base stations that structure a network, in association with an address of the terminal device currently existing under said each wireless base station (Zhang: Col. 10, lines 21-29. Each base station contains a copy of a local subscriber list of its mirrored base station. Col. 10, lines 45-55. Each list contains the subscriber information of the terminal, and the associated base station that owns the subscriber.), **and each of the wireless base stations is configured to exchange the information in the location table with the other wireless base stations to update the location table** (Zhang: Col. 11, lines 33-38. Each base station is operative to transmit copies of the list to its associative mirror base station.), **and each of the wireless stations is configured to, upon receiving a packet, identify a wireless base station to which the source terminal device or the destination terminal device currently belongs according to the location table, based on a source address of the source terminal device or a destination address of the destination terminal device, respectively, included in the received packet to find the next hop according to the route control table** (Zhang: Col. 31, lines 4-19. Part of the process for authenticating a new host is to have mirrored base stations search their subscriber profile lists for the new host. Col. 10, lines 55-59. Each global/subscriber list contains the address associated with the mobile host.)

Zhang is silent on forwarding to the next hop.

Nakabayashi discloses **a route control table describing each of the other wireless base stations as a root bridge or a destination bridge of a transmission path in the network in association with a next hop to which the received packet is to be forwarded, the next hop being determined in accordance with a wireless base station to which a source terminal device or a destination terminal device currently belongs to one of the wireless base station** (Nakabayashi: Figure 4, [0047]. Each wireless base station contains a routing table. Figure 5, [0050]. The table contains information regarding a plurality of ports of a wireless bridge associated with a plurality of terminals existing in the direction of the connected, associated bridge. [0053]. A parameter table contains information corresponding to a port described in the routing table. [0059]. The connected bridge ID field contains the ID of the neighboring wireless bridge connected to the wireless bridge. [0064]. The packet is determined to be local or multicast.). Nakabayashi further discloses the ability to **transmit the packet to the next hop** (Nakabayashi: [0066]. The connection table is then utilized to determine the next wireless bridge to forward the packet based on the destination address and signal quality. Also see [0016], [0019], [0040-0041] and Figure 5.).

Zhang and Nakabayashi are of similar fields in that both disclose a means to decrease network traffic (congestion) by reducing the amount of messages transferred in the network (Zhang: Col. 5, lines 38-41 and Nakabayashi: [0010-0012]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zhang to include

forwarding packets through a transmission line as taught by Nakabayashi to

increase message forwarding efficiency in a bridge protocol processor and in the

wireless section of the network (Nakabayashi: [0098]).

Regarding Claim 5, the combination of Zhang and Nakabayashi

discloses **the packet transmission system of claim 1, wherein the received**

packet includes an ID of a transmission tree used to transmit said received

packet or address information representing the wireless base station to

which the source terminal device or the destination terminal device

currently belongs (Nakabayashi: [0059]. The connected bridge ID field (of the

parameter table, in association with the routing table) contains the ID of the

neighboring wireless bridge connected to the wireless bridge. Figure 5 shows

multiple entries in the "Bridge ID" column suggesting multiple wireless bridges

connected.); **and wherein each of the wireless base stations is configured to**

determine the next hop to which the received packet is to be forwarded

from the route control table based on the ID information of the

transmission tree or the address information of the wireless base station

included in the packet (Nakabayashi; [0019]. Packets can either be multicast of

broadcast along a transmission signal to wireless bridges in a network. The

packet contains a destination address. Figure 4, [0047]. Each wireless base

station contains a routing table. Figure 5, [0050]. The table contains information

regarding a plurality of ports of a wireless bridge associated with a plurality of

terminals existing in the direction of the connected, associated bridge. [0053]. A

parameter table contains information corresponding to a port described in the

routing table. [0059]. The connected bridge ID field contains the ID of the

neighboring wireless bridge connected to the wireless bridge. [0064]. The packet

is determined to be local or multicast.).

Regarding Claim 6, Zhang discloses **a wireless base station**

constituting, together with other wireless base stations, a packet

transmission system using a wireless packet network (Figure 3a. The

network comprises at least two base stations. Col. 7, lines 10-15. Each base

station has at least one mobile host belonging to it.), **comprising:**

a location table to record an address of each of the wireless base stations

in said transmission system, in association with an address of each of

terminal devices currently participating in the network and existing under a

corresponding one of the wireless base stations (Zhang: Col. 10, lines 21-29.

Each base station contains a copy of a local subscriber list of its mirrored base

station. Col. 10, lines 45-55. Each list contains the subscriber information of the

terminal, and the associated base station that owns the subscriber.).

Zhang is silent on incorporating a routing table, receiving and transmitting

units, and a route determination unit.

Nakabayashi discloses **a route control table describing each of the**

wireless base stations as a root bridge or a destination bridge of a

transmission path in the network in association with a next hop to which a

packet is to be forwarded assuming that said one of the other wireless

base stations, the next hop being determined in accordance with a wireless

base station to which a source terminal device or a destination terminal

device belongs (Nakabayashi; Figure 4, [0047]. Each wireless base station contains a routing table. Figure 5, [0050]. The table contains information regarding a plurality of ports of a wireless bridge associated with a plurality of terminals existing in the direction of the connected, associated bridge. Also see [0016], [0019], [0040-0041] and Figure 5.);

a route determination unit configured to identify a wireless base station to which the source terminal device or the destination terminal device currently belongs according to the location table, based on a source address of the source terminal device or a destination address of the destination terminal device included in a received packet and find the next hop according to the route control table (Nakabayashi; Figures 4 and 8, [0066]. The connection table contains information identifying other wireless bridges in the range where packets may be sent or received. [0048]; processor and MAC controller determine wireless bridge path setting.);

and a packet transmission unit configured to transmit the packet to the next hop according to the determination result (Nakabayashi; Figure 4, [0046]. The wireless bridge contains a transmission/reception circuit, 11.).

Zhang and Nakabayashi are of similar fields in that both disclose a means to decrease network traffic (congestion) by reducing the amount of messages transferred in the network (Zhang: Col. 5, lines 38-41 and Nakabayashi: [0010-0012]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zhang to include forwarding packets through a transmission line as taught by Nakabayashi to

increase message forwarding efficiency in a bridge protocol processor and in the wireless section of the network (Nakabayashi: [0098]).

Regarding Claim 8, Zhang discloses **the wireless base station of claim 6, wherein the packet transmission unit transmits a message packet reporting participation of a new terminal device when the new terminal device belongs to the wireless base station** (Zhang: Col. 22, lines 24-42. A message is propagated from a base station, either through multicasting or broadcasting, when a new mobile host enters (authenticated) the coverage area of said base station.).

Regarding Claim 9, the combination of Zhang and Nakabayashi discloses **the wireless base station of claim 6, wherein when the receiving unit receives a message packet reporting a new terminal device having belonged to one of the other wireless base stations, the route determination unit updates the location table** (Nakabayashi; Figure 4, [0048]. A processor contained in each wireless bridge executes network topology control used for updating table information such as wireless bridge path setting.).

Regarding Claim 10, the combination of Zhang and Nakabayashi discloses **the wireless base station of claim 6, wherein when the receiving unit receives a packet from a source terminal device belonging to this wireless base station, the packet transmission unit writes an address of a destination side wireless base station to which a destination terminal device currently belongs in the packet, and then transmits the packet to the next hop according to the route control table** (Nakabayashi; [0096]. If the

destination address of the received message matches that of a wireless port

number associated with another base station, a MAC frame is attached, which

corresponds to a RA (forwarding destination address) of another base station,

and then transmitted.).

Regarding Claim 29, Zhang discloses **a packet transmission system**

comprising a plurality of wireless base stations (Zhang: Figure 3a. The

network comprises at least two base stations.) **and one or more terminal**

devices belonging to one of the wireless base stations (Zhang: Figure 3a;

Col. 7, lines 10-15. Each base station has at least one mobile host belonging to

it.), **wherein each of the wireless base stations includes:**

a location table describing each of the terminal devices associated with a

corresponding wireless base station to which the terminal device currently

belongs (Zhang: Col. 10, lines 21-29. Each base station contains a copy of a

local subscriber list of its mirrored base station. Col. 10, lines 45-55. Each list

contains the subscriber information of the terminal, and the associated base

station that owns the subscriber.), **and a location table updating unit**

configured to exchange the information in the location table with the other

wireless base stations and update the location table of this wireless base

station (Zhang: Col. 11, lines 33-38. Each base station is operative to transmit

copies of the list to its associative mirror base station.).

Zhang is silent on route control tables, next hops, packet creating, and

route determining.

Nakabayashi discloses **a route control table describing each of the**

other wireless base stations in the network in association with a next hop

to which the received packet is to be forwarded (Nakabayashi: Figure 5 and

[0050]), **the next hop being determined in accordance with a wireless base**

station to which a source terminal device or a destination terminal device

currently belongs (Nakabayashi; Figure 4, [0047]. Each wireless base station

contains a routing table. Figure 5, [0050]. The table contains information

regarding a plurality of ports of a wireless bridge associated with a plurality of

terminals existing in the direction of the connected, associated bridge.), **a packet**

creating unit configured, if said one of the wireless base stations is a

wireless base station that first received a packet from a terminal device, to

add address information of a wireless base station, to which the source

terminal device or the destination terminal device of the received packet

currently belongs, to the received packet with reference to the location

table (Nakabayashi: [0096]. A MAC frame is created based on the MAC address

indicated by the connected bridge ID in the system sub-table corresponding to

the receiver address field. The sub-table contains connected bridge ID fields

([0053]). Also see [0009], [0040], and Figure 2.), **a route determination unit**

configured, upon receiving a packet from another wireless base station, to

determine a next hop wireless base station to which the received packet is

to be forwarded based upon the address information of the wireless base

station to which the source terminal device or the destination terminal

device currently belongs, the address information included in the packet,

with reference to the route control table (Nakabayashi; Figures 4 and 8,

[0066]. The connection table contains information identifying other wireless

bridges in the range where packets may be sent or received. [0048]; processor

and MAC controller determine wireless bridge path setting.), **a packet**

transmission unit configured to transmit the packet to the next hop

wireless base station determined by the route determination unit

(Nakabayashi: [0066]. The connection table is then utilized to determine the next

wireless bridge to forward the packet based on the destination address and

signal quality.).

Zhang and Nakabayashi are of similar fields in that both disclose a means

to decrease network traffic (congestion) by reducing the amount of messages

transferred in the network (Zhang: Col. 5, lines 38-41 and Nakabayashi: [0010-

0012]). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the teachings of Zhang to include

forwarding packets through a transmission line as taught by Nakabayashi to

increase message forwarding efficiency in a bridge protocol processor and in the

wireless section of the network (Nakabayashi: [0098]).

Regarding Claim 30, the combination of Zhang and Nakabayashi

discloses **the packet transmission system of claim 29, wherein the packet**

transmission unit of a corresponding wireless base station is further

configured to transmit a message packet reporting participation of a new

terminal device when the new terminal device belongs to the

corresponding wireless base station (Nakabayashi: [0042-0043]. BPDUs are

exchanged to determine changes in network topologies.);

and wherein the location table updating unit is further configured to update

the location table when the message packet is received from another

wireless base station (Zhang: Col. 2, lines 41-50).

     Regarding Claim 31, the combination of Zhang and Nakabayashi

discloses **the packet transmission system of claim 29, wherein the packet**

creating unit is configured, if said one of the wireless base stations is a

wireless base station that first receives a packet from a terminal device, to

add ID information of a transmission route for this packet to the receive

packet (Nakabayashi: [0050]), **and wherein upon receiving a packet from**

another wireless base station, the route determination unit determines the

next hop wireless base station from the ID information of the transmission

route included in the received packet, with reference to the route control

table (Nakabayashi: [0050].

     Regarding Claim 32, Zhang discloses **a wireless base station used in a**

wireless packet transmission system (Zhang: Figure 3a. The network

comprises at least two base stations.), **comprising:**

a location table describing each of the terminal devices associated with a

corresponding wireless base station to which the terminal device currently

belongs in said wireless packet transmission system (Zhang: Col. 10, lines

21-29. Each base station contains a copy of a local subscriber list of its mirrored

base station. Col. 10, lines 45-55. Each list contains the subscriber information of the terminal, and the associated base station that owns the subscriber.**), and a location table updating unit configured to exchange the information in the location table with the other wireless base stations and update the location table of this wireless base station** (Zhang: Col. 11, lines 33-38. Each base station is operative to transmit copies of the list to its associative mirror base station.).

Zhang is silent on route control tables, next hops, packet creating, and route determining.

Nakabayashi discloses **a route control table describing each of the other wireless base stations in the network in association with a next hop to which the received packet is to be forwarded** (Nakabayashi: Figure 5 and [0050]), **the next hop being determined in accordance with a wireless base station to which a source terminal device or a destination terminal device currently belongs** (Nakabayashi; Figure 4, [0047]. Each wireless base station contains a routing table. Figure 5, [0050]. The table contains information regarding a plurality of ports of a wireless bridge associated with a plurality of terminals existing in the direction of the connected, associated bridge.), **a packet creating unit configured, if said one of the wireless base stations is a wireless base station that first received a packet from a terminal device, to add address information of a wireless base station, to which the source terminal device or the destination terminal device of the received packet currently belongs, to the received packet with reference to the location**

table (Nakabayashi: [0096]. A MAC frame is created based on the MAC address

indicated by the connected bridge ID in the system sub-table corresponding to

the receiver address field. The sub-table contains connected bridge ID fields

([0053]). Also see [0009], [0040], and Figure 2.), **a route determination unit**

configured, upon receiving a packet from another wireless base station, to

determine a next hop wireless base station to which the received packet is

to be forwarded based upon the address information of the wireless base

station to which the source terminal device or the destination terminal

device currently belongs, the address information included in the packet,

with reference to the route control table (Nakabayashi; Figures 4 and 8,

[0066]. The connection table contains information identifying other wireless

bridges in the range where packets may be sent or received. [0048]; processor

and MAC controller determine wireless bridge path setting.), **a packet**

transmission unit configured to transmit the packet to the next hop

wireless base station determined by the route determination unit

(Nakabayashi: [0066]. The connection table is then utilized to determine the next

wireless bridge to forward the packet based on the destination address and

signal quality.).

Zhang and Nakabayashi are of similar fields in that both disclose a means

to decrease network traffic (congestion) by reducing the amount of messages

transferred in the network (Zhang: Col. 5, lines 38-41 and Nakabayashi: [0010-

0012]). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the teachings of Zhang to include

forwarding packets through a transmission line as taught by Nakabayashi to

increase message forwarding efficiency in a bridge protocol processor and in the

wireless section of the network (Nakabayashi: [0098]).

Claims 33 and 34 are substantial duplicates of claims 30 and 31 and

are therefore rejected under the same grounds.

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to BENJAMIN ELLIOTT whose telephone

number is (571)270-7163. The examiner can normally be reached on Monday

thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/   BENJAMIN ELLIOTT
Supervisory Patent Examiner, Art Unit 2474   Examiner
                                                                          Art Unit 2474